

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
12 May 2005 (12.05.2005)

PCT

(10) International Publication Number
WO 2005/043282 A2

- (51) International Patent Classification⁷: **G06F**
- (21) International Application Number:
PCT/KR2004/002766
- (22) International Filing Date: 29 October 2004 (29.10.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
10-2003-0076554 31 October 2003 (31.10.2003) KR
10-2004-0067733 27 August 2004 (27.08.2004) KR
- (71) Applicants (for all designated States except US): ELEC-
TRONICS AND TELECOMMUNICATIONS RE-
SEARCH INSTITUTE [KR/KR]; 161, Gajeong-dong,

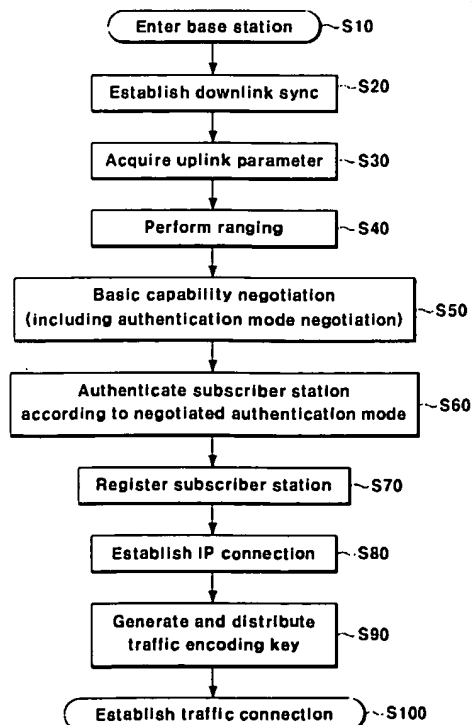
Yuseong-gu, Daejeon, 305-350 (KR). **SAMSUNG ELEC-
TRONICS CO., LTD.** [KR/KR]; 416, Maetan-dong,
Yongtong-gu, Suwon-si, Gyeonggi-do, 442-742 (KR).
KT CORPORATION [KR/KR]; 206, Jeongja-dong, Bun-
dang-gu, Seongnam-city, Gyeonggi-do, 463-711 (KR).
SK TELECOM CO., LTD. [KR/KR]; 99, Serin-dong,
Jongro-gu, Seoul, 110-110 (KR). **KTFREETEL CO.,
LTD.** [KR/KR]; 890-20, Daechi-dong, Gangnam-gu,
Seoul, 135-280 (KR). **HANARO TELECOM, INC.**
[KR/KR]; Shindongah Fire & Marine Insurance Building
43, Taepyeongno 2-ga, Jung-gu, Seoul, 100-733 (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **PARK, Ae-Soon**
[KR/KR]; Hanvit Apt. 138-301, Eoeun-dong, Yuseong-gu,
Daejeon-city, 305-755 (KR). **CHO, Seok-Heon** [KR/KR];
775-21, Shin-dong, Iksan-city, Jeollabuk-do 570-976
(KR). **LIM, Sun-Hwa** [KR/KR]; Jukong Apt. 207-1004,
Wolpyeong-dong, Seo-gu, Daejeon-city, 302-280 (KR).
KIM, Yeong-Jin [KR/KR]; Nuri Apt. 107-1401,

[Continued on next page]

(54) Title: METHOD FOR AUTHENTICATING SUBSCRIBER STATION, METHOD FOR CONFIGURING PROTOCOL THEREOF, AND APPARATUS THEREOF IN WIRELESS PORTABLE INTERNET SYSTEM



(57) Abstract: Disclosed are a subscriber station authentication method, a protocol configuration method, and a device thereof in a wireless portable Internet system. In the subscriber station authentication method, an authentication mode between a subscriber station and a base station is negotiated, and the authentication mode is negotiated by the base station according to the authentication mode negotiation. The authentication modes include an authentication mode based on the IEEE 802.16 privacy standard protocol and an authentication mode based on the standardized authentication protocol of the upper layer. Authentication is performed by the base station in the case of the authentication mode based on the IEEE 802.16 privacy standard protocol, and the authentication is performed through message transmission using a diameter protocol between a base station and an authentication server in the case of the authentication mode based on the standardized authentication protocol of the upper layer.

WO 2005/043282 A2

WO 2005/043282 A2



Wolpycong-dong, Seo-gu, Daejeon-city 302-280 (KR).
 AHN, Jee-Hwan [KR/KR]; 149-7, Sinseong-dong,
 Yuseong-gu, Daejeon-city 305-720 (KR).

(74) Agent: YOU ME PATENT AND LAW FIRM; Seolim
 Bldg., 649-10, Yoksam-dong, Kangnam-ku, Seoul 135-080
 (KR).

(81) Designated States (*unless otherwise indicated, for every
 kind of national protection available*): AE, AG, AL, AM,
 AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
 CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
 GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
 KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,
 MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH,
 PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,
 TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every
 kind of regional protection available*): ARIPO (BW, GH,
 GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
 ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
 European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
 FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
 SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
 GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished
 upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guid-
 ance Notes on Codes and Abbreviations" appearing at the begin-
 ning of each regular issue of the PCT Gazette.